THE

ADVISORY DEPARTMENT

IMPERIAL COLLEGE OF TROPICAL AGRICULTURE.

IMPERIAL MYCOLOGICAL
20 NOV. 1931
INSTITUTE

REPORT

ON THE

AGRICULTURAL DEPARTMENT

ST. KITTS-NEVIS

1930-31.

ISSUED BY THE COMMISSIONER OF AGRICULTURE

FOR THE WEST INDIES.

1931.

[Price Sixpence.]

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LETTER OF TRANSMITTAL.

C.A. 733.

24th August, 1931.

Sir,

I have the honour to transmit the Report on the Agricultural Department, St. Kitts-Nevis and Anguilla, during the year ended March 31st, 1931.

2. The year was an extremely difficult one in many respects, and in certain directions the efforts of the Agricultural Officers were nullified through want of rain.

3. In spite of this, the planters and the department are to be congratulated on the effort put forward to start a trade in fresh vegetables for export to Canada. The report shows that St. Kitts exported 4,630 crates and Nevis 1,293 crates of tomatoes, a very promising start. Whilst the planters and peasants undertook the growing of the crop, the department assisted by supplying seed, raising seedlings and undertaking the selecting, grading and packing of the fruit. The Government undertook to convert suitable buildings in St. Kitts and Nevis into central marketing depots. With loans granted from the Colonial Development Fund, cold storage facilities have been made available for future crops.

4. Interesting trials with a number of different varieties of tomatoes were undertaken by the department and the results are presented in this report. Judging by the results of this year, it is somewhat questionable whether 'Bonny Best,' the variety selected for commercial planting is the one best suited to St. Kitts-Nevis conditions. The question of the correct varieties and the proper cultural treatment to be given will have to be investigated. With this object in view a plan of experiments has been prepared by the Field Experiments Committee in Trinidad.

5. The sugar crop of St. Kitts for the year 1930 was a satisfactory one, and was only a thousand tons short of the record crop of 1928 when 18,600 tons of sugar were exported. Dry weather has seriously affected the growth of the cane for the 1931 crop.

6. The department undertook the carrying out of experiments on the manurial requirements of the sugar cane under St. Kitts conditions. The results of these are presented in this report. It will be necessary to repeat these experiments over a number of years. Several new varieties of sugar cane have recently been introduced, and these are now being propagated by rapid methods and will soon be available for field experiments.

7. The cotton crop of St. Kitts was the largest since 1919. Nevis, however, showed a serious decrease whilst Anguilla produced about the same as in the previous year. In each case the yield per acre was not satisfactory.

8. The cotton seed farm run by the Government maintains a pure strain of cotton. The work of selecting was carried on in the usual way. The cotton seed supply of these islands is not entirely satisfactory. The seed produced at the farm appears to be insufficient to meet requirements and the arrangements for supplementing this are unsatisfactory. During recent years planters have imported seed from other islands, and the purity of the St. Kitts strain is likely to be affected. The work of the cotton seed farm, and the general question of seed supply requires investigating and this has now been arranged for.

9. Nevis has passed through a particularly trying period. The rainfall for the year was only 36.56 inches, which is 10 inches short of the twenty-five year mean. Efforts were made to run a demonstration plot and the results are recorded in this report.

10. Mycological and Entomological troubles, especially the latter, were conspicuous during the year. They caused serious losses to all the main crops. I regret that this department for want of staff is not in a position to render adequate assistance in investigating these problems. Especially is this the case with the newer crops which are now being grown.

11. The appointment of Mr. Lake as Agricultural Instructor in Anguilla, made possible by a free grant from the Colonial Development Fund, will enable the people of that island to keep in touch with improved agricultural methods.

12. The Agricultural Department of St. Kitts-Nevis has been run for some years with a very small staff. Sanction has now been given to the appointment of an Agricultural Assistant. With this augmented staff, additional work will be undertaken.

I have the honour to be,

Sir,

Your obedient servant,

(Sgd.) G. A. JONES,

Acting Commissioner of Agriculture,
Imperial College of Tropical Agriculture

His Honour,
The Administrator,
St. Kitts.

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STAFF OF THE AGRICULTURAL DEPARTMENT, ST. KITTS-NEVIS.

Agricultural Superintendent	R. E. KELSICK.
Agricultural Instructor, Nevis	W. I. HOWELL.
Agricultural Instructor, Anguilla, (from 1st January, 1931)	E. O. R. LAKE.
Assistant Clerk, St. Kitts	R. LANCE.

REPORT ON THE AGRICULTURAL DEPARTMENT, ST. KITTS-NEVIS.

For the year ended 31st March, 1931.

Distribution of Plants and Seeds.

The distribution of plants during the year was as follows:—

Flowering shrubs and trees	83
Ornamental foliage trees	61
Ornamental plants	176
Casuarina	380
Galba	24
Julie Mango	8
Pineapple suckers	22,407
Papaw	27
Guava	3
Grape	2
Sugar cane cuttings	3,056

SEEDS.

Cotton seed	68,028 lbs.
Onion seed	28 „
Vegetable seeds	626 pkts.
Tomato seed	22 lbs.

INTRODUCTION OF PLANTS.

A supply of pineapple suckers of the Red Spanish variety was imported from Porto Rico for trial on certain estates. Seeds of five varieties of Soya Bean, two varieties of Crotalaria and Melilotus alba were obtained from the United States Department of Agriculture. Seeds of three varieties of Papaw were obtained from Hawaii. The sweet potato variety V.52 was introduced from St. Vincent and the cane varieties B.891 and B.831 from Barbados. Seeds of Tephrosia toxicaria, Plantago psyllium and Pyrethrum were received from the Commissioner of Agriculture but they failed to germinate.

PLOT EXPERIMENTS.

Variety plots of Groundnut, Yam, Sweet Potato, Cassava, Soya Bean and Pineapple were grown. All of these were seriously damaged by the prolonged drought of 1930.

The following five strains of Soya Bean received from the United States Department of Agriculture were grown: Giantsoy, Laredo, Otootan, Southern Prolific and Biloxi. All the varieties suffered from the very unfavourable weather conditions. The bushy habit of growth of the variety Otootan should make it suitable for use as a green dressing crop.

EXPERIMENTS WITH VEGETABLES.

Tomato Variety Trials.

An experiment was carried out with fifteen varieties of tomatoes to obtain information on their quality and suitability for the Canadian market.

Seeds of the first ten varieties were sown in boxes on the 1st September and the plants were put out in the field on the 7th October. Seeds of the varieties 11 to 14 were sown on the 25th September and plants were set out in the field on the 1st November. Each variety occupied a plot 1/70th acre in area and the plants were spaced 3ft. by 3ft. All the plots were given an application of a complete fertilizer mixture at the rate of 600 lb. per acre. The plants were staked and pruned. The results are shown in the table overleaf.

Variety.	Grade of Fruit; Percentage.				Plot Yields. lbs.	Calc. Yield per acre. lbs.	Unmarketable Fruit.						
							Per cent. of total fruit picked.	Per cent. of total discards.					
	Fancy.	Choice.	Gems.	Midgets.				Under size.	Worm holes.	Growth cracks.	Shape.	Blossom End Rot.	Blotchy Fruit.
1. Walter Richards Extra Early Globe ..	7	83	10	..	143.3	10,000	21	..	9	48	40	..	3
2. John Baer ..	2	57	35	6	137.4	9,600	58	12	14	30	41	2	1
3. Bonny Best ..	1	62	32	5	170.4	11,900	66	8	16	50	23	..	3
4. Marglobe ..	4	74	22	..	147.1	10,300	58	..	3	64	27	1	5
5. Regina ..	..	23	53	24	231.2	16,100	63	39	8	25	25	..	3
6. Grand Rapids ..	..	20	52	28	177.1	12,400	61	45	4	35	10	2	4
7. Every Day ..	..	51	40	9	161.2	11,900	50	17	3	53	23	..	4
8. Beauty	4	66	28	2	85.2	6,000	56	3	14	44	34	3	2
9. Bloomsdale ..	7	69	22	2	99.6	7,000	59	4	5	41	43	3	4
10. Best of All ..	..	34	43	23	210.5	14,700	51	45	13	16	22	1	3
11. Blaby ..	..	25	50	25	148.1	10,400	64	39	3	29	28	..	1
12. Ailsa Craig ..	..	8	57	35	120.0	8,400	68	51	5	35	4	..	5
13. E.S.1 ..	..	9	55	36	136.2	9,500	76	47	4	26	16	2	5
14. E.S.3 ..	..	18	59	23	102.5	7,200	58	42	8	38	12	..	..
15. Merveille des Marches	..	55	44	1	71.5	5,000	63	2	3	44	24	27	..

The fruits from the experimental plots were collected in marked baskets and graded for size in four grades as follows:—

No. 1 Fancy, minimum size 2¾ inches in diameter.
No. 2 Choice, minimum size 2¼ inches in diameter.
No. 3 Gems, minimum size 1¾ inches in diameter.
Midgets, all fruits smaller than gems.

Midgets are not usually shipped to the Canadian market and these are included in the unmarketable fruit recorded in the table.

From the table it will be seen that the variety Walter Richards Extra Early Globe gave the best results under the conditions of this trial; 90 per cent of the fruit of this variety was included in grades 1 and 2 and these are the two grades which are in greatest demand on the Canadian market. Only 21 per cent of the fruit harvested from this variety was found unsuitable for shipment while the average for all other varieties was 60 per cent. In nearly all the varieties growth cracks and unsuitable shape were the main defects of the fruit. The fruits of the English varieties were found to be too small for the Canadian market. The results of this experiment indicate that the varieties Walter Richards Globe and Marglobe are suitable for trial on a field scale for export to Canada.

TRIALS WITH OTHER VEGETABLES.

Trials were also carried out with the following vegetables:

Cabbage—varieties, Golden Acre, Copenhagen Market, Early Jersey Wakefield, Drumhead, Savoy and All Head Early. With the exception of the Savoy cabbage all these varieties produced very solid heads of medium size and can be recommended to growers.

Cauliflower. Seeds of an Indian variety were obtained through the Commissioner of Agriculture. In spite of the severe drought several "heads" of very fair size were obtained. This vegetable will be grown on a larger scale next season.

Asparagus. The variety Mary Washington was tried. Very satisfactory growth was made by the plants. The flavour was considered to be very good by a Canadian visitor.

Egg Plant. The variety Black Beauty was grown. The crop did fairly well and trials with other varieties will be made next season.

The string bean and sweet pepper plots were severely damaged by the drought and the Red Spanish onion did not bulb satisfactorily.

Government Cotton Seed Farm.

The 1930 crop was planted on the 17th and 18th March after a fall of 1.40 inches of rain. The germination of the seed was very satisfactory. The weather for the rest of the month was extremely dry and there was great difficulty in getting supplies established. The plants suffered from lack of moisture throughout the season and consequently the crop was much smaller than in 1929.

The total amount of seed cotton picked was 44,372 lbs which yielded 9,518 lbs clean cotton and 761 lbs. stained cotton, a total of 10,279 lbs. lint. As 68 acres were planted the yield per acre was about 150 lbs. of lint, slightly

more than half the yield obtained in 1929. The St. Kitts growers were supplied with 10,705 lbs. of hand picked and fumigated cotton seed from the farm and the Nevis and Anguilla growers with 59,838 lbs. of fumigated seed. Seed was obtained from Spooner's Cotton Ginnery to supplement the amount produced on the farm.

WORK CONNECTED WITH INSECT AND FUNGUS PESTS AND THEIR CONTROL.

SUGAR CANE.

Gumming Disease.

No increase of this disease has been observed and the methods adopted for its control have apparently proved satisfactory.

Mosaic Disease.

This disease was not observed on sugar cane during the year.

Moth Borer (*Diatraea saccharalis, Fabr.*)

This insect was quite as prevalent as in other years and caused substantial losses to the crop.

COTTON.

In some districts of the island the cotton crop was attacked severely by the cotton leaf worm (Alabama argillacea), and considerable quantities of Paris Green and lime were used for its control. On some estates calcium arsenate was used with satisfactory results.

The second crop bolls were heavily infested with the larvae of the Pink Bollworm (Pectinophora gossypiella) but the losses to the first crop from attacks of this insect were small. The two months close season continued to be rigidly enforced and during this season all wild cotton plants and other host plants such as ochro were destroyed.

PESTS OF PROVISION AND VEGETABLE CROPS.

Sweet Potato. In a plot of sweet potatoes at the Experiment Station the tubers were found to have been attacked by an insect which had the appearance of the sweet potato weevil (Cylas formicarius, Fabr.). Specimens of the insect were sent to the Imperial College of Tropical Agriculture and the identification was confirmed. This is the first record of the presence of this insect on the island.

Some sweet potato fields were defoliated by leaf eating caterpillars.

Tomato. The tomato crop was attacked by the horn worm (Protoparce sexta). This pest was controlled by hand picking but this method proved expensive in some instances. The fruit was attacked by several fruit worms and by the green bug (Nezara viridula). Blossom end rot was also present to some extent.

Cabbages were attacked by leaf eating caterpillars and melons and cucum-

bers by aphis and caterpillars. Dusting and spraying with Paris Green and Katakilla were tried. The results were not very satisfactory. A trial was also made with Pysect.

DISINFECTION OF PLANTS AND SEEDS.

As required by law all seeds and plants imported into the island were inspected at the Experiment Station, and, where necessary, fumigated.

WORK IN THE CHEMICAL LABORATORY.

Samples of milks, manures, petroleum oils, soils and waters were examined during the year.

PROGRESS IN CHIEF INDUSTRIES.

THE SUGAR CANE INDUSTRY.

The season of growth of the 1928-30 sugar cane crop was more favourable than that of the previous season. The average rainfall of October, November and December, 1928, was 16.51 inches. The germination of the plants was good and a uniform stand was obtained. The average rainfall of 1929 was 52.55 inches and the precipitation was well distributed. Final yields were reduced somewhat by the very dry spell in February and March, 1930.

For the 1928-30 crop 6,880 acres of cane were reaped and the Basseterre Factory manufactured 18,680 tons of grey crystal sugar from 150,937 tons of cane. The average yield of the island was 21.98 tons of cane and 2.72 tons of sugar per acre. The average price obtained for the sugar was £10. 6. 2. per ton which was £1. 10. 5. less than in 1929. The Directors of the factory came to the assistance of planters and paid 14/- per ton for cane, cash on delivery, instead of 5½ per cent on the market price with a half share of the profits.

For the 1929-31 crop about 6,600 acres of cane will be reaped. The severe drought of 1930-31 seriously affected the growth of the cane for this crop and it is not expected that it will exceed 12,000 tons of sugar.

The varieties B.H. 10(12) and S.C. 12.4. continued to occupy the largest area. A small acreage of P.O.J. 2878 will be reaped in 1932 and there will be fairly large plantings of this variety and B.726 for the 1933 crop. The varieties B.374 and G.119 will also be available for trial on a field scale. B.831 and B.891 are being rapidly worked up for distribution.

MANURIAL EXPERIMENT WITH SUGAR CANE.

In the report for 1929-30 reference was made to a manurial trial with sugar cane which had been laid out at Molineux Estate. This experiment was reaped this year and the results are now considered.

The experiment was conducted on plant cane of the variety B.H.10.12 and the lay out consisted of four randomised blocks and two 4 x 4 latin squares. There were twenty different treatments in all. The plan of the ex-

periment was drawn up by the advisory department of the Imperial College of Tropical Agriculture.

The lining of the experimental field was 5 feet by 4 feet and each plot was 1/25th acre in area (88 holes). The soil was a light sandy loam. The canes were planted on the 5th-9th December, 1929, the manures were applied on the 25th and 26th February, 1930, and the plots were reaped on the 23rd-26th March, 1931.

The following table shows the average distribution of the rainfall at this station during the period of growth of the canes and the average rainfall during the past ten years.

	Rainfall 1929-1931 inches.	Average Rainfall 1921-1930 inches.
December, 1929	4.93	3.69
January, 1930	7.88	2.94
February	0.67	1.83
March	2.40	2.88
April	2.43	2.94
May	2.54	2.95
June	3.12	3.12
July	3.48	4.17
August	3.24	5.95
September	3.20	6.58
October	4.96	5.95
November	8.87	5.40
December	5.30	3.69
January, 1931	1.16	2.94
February	0.99	1.83
March	1.11	2.88
Total	56.28	59.74

The results are given in the tables overleaf.

Mean yields of plots of four randomized blocks.

Fertilizer per acre.	Nutrients, lbs per acre.			Yield per acre	Difference over No Manure.	Cost of manuring	Value of increment @$3·36 per ton Cane.
	N.	P_2O_5	K_2O.	Tons.			
						$	$
190 lbs Sulphate of Ammonia ...	40	...	...	30·1	+2·3	5·50	7·73
380 „ „ „ „ ...	80	...	...	27·4	- 0·4	11·00	- 1·34
570 „ „ „ „ ...	120	...	...	27·2	- 0·6	15·50	- 2·02
190 lbs Sulphate of Ammonia 120 lbs Sulphate of Potash ...	40	...	60	29·2	+1·4	9·30	4·70
380 lbs Sulphata of Ammonia 120 lbs Sulphate of Potash ..	80	...	60	30·7	+2·9	14·80	9·74
570 lbs Sulphate of Ammonia 120 lbs Sulphate of Potash ...	120	...	60	28·1	+0·3	20·30	1·00
120 lbs Sulphate of Potash ...	...	...	60	29·1	+1·3	3·80	4·37
190 lbs Sulphate of Ammonia 250 lbs Superphosphate of Lime ...	40	40	...	26 8	- 1·0	9·50	- 3·36
380 lbs Sulphate of Ammonia 250 lbs Superphosphate of Lime ...	80	40	...	30 2	+2·4	15·00	8·06
570 lbs Sulphate of Ammonia 250 lbs Superphosphate of Lime ...	120	40	...	29· 8	+2·0	20·50	6·72
250 lbs Superphosphate of Lime ...	...	40	...	28·3	+0·5	4·00	1·68
190 lbs Sulphate of Ammonia 120 lbs Sulphate of Potash 250 lbs Superphosphate of Lime ...	40	40	60	29·6	+1·8	13·30	6·05
380 lbs Sulphate of Ammonia 120 lbs Sulphate of Potash 250 lbs Superphosphate of Lime ..	80	40	60	27·9	+0·1	18·80	0·33
570 lbs Sulphate of Ammonia 120 lbs Sulphate of Potash 250 lbs Superphosphate of Lime ...	120	40	60	30·1	+2·3	24·30	7·73
120 lbs Sulphate of Potash 250 lbs Superphosphate of Lime ...	...	40	60	29·6	+1·8	7·80	6·05
No Manure	...	...	...	27·8	...	. .	...

Mean yields of plots of two 4 x 4 latin squares.

Manures per acre.	Nutrients, lbs per acre. N.	P_2O_5	K_2O.	Yield per acre. Tons.	Difference over No. Manure	Cost of manuring.	Value of increment @ $3·36 per ton Cane.
25 tons Pen Manure	300	125	350	29·0	+1·5	39·00	5·04
2½ „ „ „ 95 lbs Sulphate of Ammonia 60 lbs Sulphate of Potash 125 lbs Superphosphate of Lime...	170	83	205	29·6	+2·1	21·15	7·06
600 lbs Humber Compound Fish Manure	30	30	60	30·3	+2·8	16·00	9·41
No Manure	...	...	...	27·5	...	...	...

In the tables the yields of cane per acre are means of four plots for the randomised blocks and of eight plots for the latin squares. Statistical examination of the results indicates that any difference in the mean yields of treatments of the plots of the randomised blocks must be greater than 3.8 tons of cane per acre to have a 20 to 1 chance of being due to difference in manurial treatment. For the latin squares the difference in the mean yields must be 3 tons of cane per acre to be significant.

In this experiment none of the plots show a significant increase in yield over the no manure plots. The yields of the unmanured plots appear to indicate that the soil of the experimental field was in fairly good heart and it may be that the canes were unable to make use of the fertilizers owing to the very dry conditions prevailing in 1930.

Mr. P. E. Turner of the Imperial College of Tropical Agriculture made a statistical analysis of the data and, on his recommendation, the same amounts of fertilizers have been applied to the ratoons of the plots of the randomised blocks with the exception of the potash which has been doubled. No further treatment will be given to the pen manure plots but the ratoons on these will be reaped in 1932 to get information regarding the residual value of pen manure.

The Department is greatly indebted to Mr. Owen, the Manager of Molineux Estate, for his keen co-operation and valuable assistance in carrying out this Experiment.

VARIETY TRIAL WITH SUGAR CANE.

A variety trial with the following seven varieties was laid out at Molineux Estate in October, 1930:—P.O.J. 2725, B.417, B.381, B.374, B.H. 10.12, B.726 and S.C. 12.4. The lay out of the experiment is a 7 x 7 latin square. These canes will be reaped in the 1932 crop season. At the time of writing this report the stand of some of these varieties is not as uniform as might be desired

THE COTTON INDUSTRY.

ST. KITTS.

On most estates the cotton crop of 1930 was planted on the 17th and 18th of March. There was ample moisture at the time of planting and the germination of the seed was good. For the remainder of the month there was very little rain and considerable difficulty was experienced in getting the supplies established. For this reason the stand in many fields was very irregular. The weather was very dry throughout the season and on most places the plants were severely stunted. In some districts the crop was repeatedly attacked by the cotton leaf worm.

The area under cotton was 2,200 acres and the total output of the island was 397,763 lbs. of lint, a yield of 180 lb. lint per acre. The stained cotton amounted to about 5 per cent of the lint produced.

The crop was larger than that of 1929 but the yield per acre was much lower. According to customs returns the export of cotton from the Presidency for the year ended 31st December, 1930, was 778,761 lbs. lint valued at £65,884.

NEVIS AND ANGUILLA.

Reports on the industries in Nevis and Anguilla are given in the reports of the Agricultural Instructors of those islands.

COTTON SELECTION.

Nine progeny rows were grown. On analysis row No. 3 was found to be the finest and most uniform. Selfed seed from the best plants was reserved for planting in 1931.

The following results were obtained from an examination of 21 plants:

Mean Max Lint Length mm.	Variation.	Lint per seed mgs.	Variation.	Seed Weight mgs.	Variation.
52	51—54	42	35—45	127	121—140

RETURN OF AGRICUTURAL PRODUCE EXPORTED FROM THE PRESIDENCY OF ST. KITTS-NEVIS FOR THE YEAR ENDED 31ST DECEMBER, 1930.

Article.	Quantity.	Value.
Sugar, crystals ..	17,637 tons	£178,654
Syrup	7,877 gallons.	263
Molasses	1,618 „	18
Cotton, Sea Island ..	778,761 lbs. lint.	65,484
Cotton Seed ..	364 tons.	1,837
Cotton Seed Oil ..	12,272 gallons.	932
Coconuts	16,144	100
Copra	553 lbs.	7
Salt	1,492 tons.	2,984
Vegetables	..	556
Fruit	..	37
Tamarinds	170 brls.	128
Hides and Skins ..	..	739
Horses	17	137
Mules	65	597
Asses	81	62
Cattle	100	677
Sheep	132	45
Goats	39	13
Swine	39	13

EXPORTS OF COTTON.

The following table gives the exports of cotton lint from the Presidency for the twenty-seven years ended September 30, 1930.

Year.	St. Kitts lb.	Nevis lb.	Anguilla lb.	Total. lb.
1904 ..	24,197	28,449	1,661	54,307
1905 ..	78,219	114,721	31,452	254,392
1906 ..	120,379	120,168	80,650	321,197
1907 ..	180,917	96,402	61,666	338,985
1908 ..	241,006	211,431	76,200	528,637
1909 ..	207,146	104,250	49,320	360,716
1910 ..	231,150	129,973	43,400	404,523
1911 ..	329,322	344,395	148,595	822,312
1912 ..	332,168	165,329	97,142	594,639
1913 ..	374,594	166,477	112,138	653,209
1914 ..	372,633	268,542	94,372	735,547
1915 ..	397,567	305,154	33,750	736,401
1916 ..	131,859	99,173	49,620	280,652
1917 ..	106,265	196,915	49,399	352,579
1918 ..	2,457	187,748	652	190,857
1919 ..	422,681	307,212	47,869	797,762
1920 ..	288,720	292,627	61,543	642,890
1921 ..	23,970	422,120	nil	446,090
1922 ..	228,612	225,851	50,120	504,583
1923 ..	29,256	510,919	nil	540,175
1924 ..	81,590	234,957	23,342	344,907
1925 ..	185,607	81,844	nil	267,451
1926 ..	297,023	126,014	4,337	427,374
1927 ..	220,095	224,588	nil	444,683
1928 ..	161,360	113,492	1,506	276,358
1929 ..	250,357	436,892	23,463	710,712
1930 ..	365,811	286,791	26,505	679,107

EXPORTS OF SUGAR.

The following Table gives the Exports of Sugar from the Presidency for the 31 years 1900–1930 :—

Year.	Tons.
1900	7,494
1901	12,146
1902	16,624
1903	13,511
1904	12,225
1905	12,042
1906	15,191
1907	14,178
1908	11,044
1909	12,027
1910	12,510
1911	11,139
1912	10,554
1913	11,312
1914	9,946
1915	8,311
1916	16,106
1917	15,048
1918	9,105
1919	12,483
1920	10,592
1921	9,648
1922	10,717
1923	9,699
1924	11,015
1925	15,043
1926	15,651
1927	17,363
1928	18,610
1929	12,736
1930	17,637

VEGETABLE GROWING FOR THE CANADIAN WINTER MARKET.

The planters continued their interest in the cultivation of vegetables for export to Canada during the winter months. This interest was stimulated by a visit of representatives of the Canadian British West Indies Produce Co., Ltd., to the island. In September the planters signed a contract with this Company in which they agreed to sell tomatoes to the Company at 5 cents per pound f.o.b. St. Kitts plus a fifty per cent. share of any profits realised after the produce had been sold in Canada. It was also agreed that any other vegetables grown would be shipped to this Company to be handled on consignment and that all vegetables would be graded and packed by the Agricultural Department. Tomatoes, English potatoes, string beans, egg plants and cucumbers were grown. Unfortunately the season was an exceptionally dry one and yields were low.

Tomatoes. About 30 to 40 acres were grown. The first sowings were made towards the end of September and the first lot of plants were put out in the fields about the end of October. Seed was sown at intervals of about 18 days. Seed for planting was supplied through the Agricultural Department.

Only seed of the Bonny Best variety was distributed for growing for export. All the growers established nurseries on their properties but there was always a supply of seedlings on hand at the Experiment Station to supply any shortage. The system of pruning and staking the plants was adopted on nearly all estates but in some instances the vines were allowed to run along the ground and with the very dry weather of this season some of the unstaked plots gave better results than the staked. The whole tomato crop was marketed through the Government marketing depot.

English Potatoes. About 15 to 20 acres of this crop were grown. The varieties planted were Bliss Triumph, Irish Cobbler and Green Mountain. The crop suffered from the drought and yields were low. The potatoes were marketed through the central packing house.

String Beans and Egg Plants. Plots of these two crops were planted on some estates. The varieties used were Stringless Green Pod and Black Beauty.

GOVERNMENT PACKING SHED.

At the request of the growers the Government provided accommodation for grading and packing vegetables for export. One of the vegetable sheds of the old market, with necessary repairs and certain alterations, was used. This building was equipped with a grading and packing table 40 feet long. At this table 15 packers were able to work. The Government put in a stock of crates, wrapping paper and decorative labels.

Tomatoes, English Potatoes, String Beans and Egg Plants were handled at the packing house. The first shipment was made on the 24th December, 1930 and shipments continued until April, 1931.

Tomatoes. On arrival at the packing house the tomatoes were weighed, cleaned with a damp cloth, culled, graded to three sizes (Fancy, Choice and Gems) and packed into crates each of which held 20 lbs of fruit. Each fruit was wrapped with a stamped tissue paper wrapper. On one end of the crate the grade and nett weight of fruit were stamped and the other end carried a decorative label.

142,737 lbs of tomatoes were sent to the packing house by 28 growers. After culling 91,146 lbs shipable tomatoes were obtained from these. This represents a loss of about 35 per cent. Growers will have to pay more attention to the preliminary culling of the fruit in the field and to the transportation of the fruit from the field to the packing house.

The tomato fruit has to be handled very carefully at all stages from picking to packing to avoid any bruising which makes it unfit for export to Canada.

The whole crop was handled by the Canadian British West Indies Produce Co. of Montreal on the terms stated in another part of this report and 4,630 crates were shipped to this company through the Government packing house.

The average price obtained in Canada for these tomatoes was $1.60 per crate. The charges in Canada including freight and commission amounted to 61.2 cents per crate and the local charges for grading and packing and putting alongside steamer to 35.8 cents making a total charge for marketing of 97 cents per crate. The growers received an average nett price of 3 cents per lb for all shipable tomatoes delivered at the packing house.

The quantities of other vegetables shipped through the packing house are given below.

	Quantity	Nett price to grower
English potatoes	8,450 lbs.	3 cts. per lb.
String Beans	1,077 „	12 „ „ „
Egg Plants	240 „	2 „ „ „
Cucumbers	78 „	16 „ „ „

It should be pointed out, however, that three shipments of string beans made to Canada in April were a complete failure. A considerable quantity of the beans decayed in transit and the cause of this is not known at present.

The Agricultural Superintendent was in charge of the packing house. A clerk of the assistant grade helped with the weighing of produce. No charge was made to the growers for supervision during the normal working hours of the Department but pay for overtime work was charged to the industry.

PLANT LEGISLATION.

Ordinance No. 3 of 1907. "The Fumigation of Plants Ordinance" enforces the fumigation of all imported plants at the direction of the local Agricultural Officer.

Ordinance No. 18 of 1918. "The Cotton Ordinance" regulates the planting of cotton and provides for the destruction of cotton plants.

Ordinance No. 6 of 1923. "The Cotton Ordinance Amendment Ordinance" provides for the inspection of land before the planting of a new crop.

Ordinance No. 2 of 1923. "The Plant Protection Ordinance" provides for the prevention and eradication of diseases and pests affecting vegetation.

Proclamation dated October 21, 1910, prohibits the importation of banana plants from the countries of Central and South America and from the islands of Trinidad and Tobago.

Proclamation dated October 21, 1910, prohibits the importation of coconuts from Cuba, Jamaica, Trinidad and all parts of Central and South America.

Proclamation dated November 3, 1916, prohibits the importation of citrus plants and fruits from the countries of the United States of America, Cuba, Jamaica, Haiti, San Domingo and Porto Rico.

Proclamation dated March 5, 1919, prohibits the importation of growing or sprouted coconuts from the islands of Trinidad and Grenada.

Proclamation dated November 16, 1920, prohibits the importation of sugar canes or parts of sugar canes from all countries save under license given by the Governor.

Proclamation dated December 28, 1922, prohibits the importation of bananas from all places save other Presidences of the Leeward Islands, Grenada, St. Vincent and Barbados.

Proclamation dated November 13, 1923, prohibits the importation of growing or sprouting coconuts from St. Vincent.

Proclamation dated April 2, 1925, prohibits the importation of seed cotton or cotton seed from all countries and places outside the Presidency of St. Kitts-Nevis except under the written permission of the Governor on such terms and conditions as he may prescribe.

Proclamation dated April 2, 1925, prohibits the importation of banana suckers, save and except banana suckers imported from other Presidencies of the Leeward Islands, St. Vincent and Barbados.

Statutory Rules and Orders, No. 2 of 1930, prohibits the importation directly or indirectly from all places in the United States of America, Central America, South America, Bermuda, Spain, Italy and France of all pears, apples, peaches, nectarines, apricots, plums, cherries, grapes, citrus fruits and succulent fruits of every kind.

Ordinance No. 11 of 1930. "The Exportation of Fruit Ordinance, regulates the examination and exportation of fruit, prohibits the shipment of defective fruit, and makes provision for the export of fruit.

Statutory Rules and Orders, No. 1 of 1931. "The Exportation of Fruit Rules, 1931."

METEOROLOGY.

The following are summaries of the observations recorded at the Experiment Station, La Guerite, during the year under review.

Barometric Pressure. During 1930 the mean pressure corrected for temperature and gravity and reduced to sea-level at 9 a.m. was 30.026 and at 3 p.m. 29.964, the highest recorded being 30.179 on May 16th and the lowest 29.806 on December 4th.

Temperature. The mean maximum temperature for the year was 83.7°F. and the mean minimum 75.6°F. The maximum extreme for the year, 88°F, was registered on June 25th, August 22nd, October 6th, 10th and 26th and the minimum extreme, 65°F, on January 6th and 10th. The mean average temperature was 79.1°F and mean monthly range 15°F.

Humidity. The mean relative humidity was at 9 a.m. 73.0% and at 3 p.m. 71.7%

Rainfall. The total rainfall measured at the Experiment Station was 43.30 inches. This fell on 157 days, the greatest fall being 4.62 inches on November 12th. The total average rainfall for the year 1930 from 31 stations was 45.98 inches; the average rainfall for the island for the years 1914-1930 being 53.58 inches.

Latitude 17° 20′ N

Longitude 62° 45′ W

METEOROLOGICAL REPORT FOR 1930.

AGRICULTURAL DEPARTMENT, ST. KITTS.

Heights above M. S. L. — Barometer 157 feet; Rain Guage 152 „

Months.	Barometric Pressure reduced to Sea level 32° Fahrenheit and corrected for gravity.					Temperatures.								Vapour Pressure Ins. of Mercury.			Relative Humidity per cent.			Inches Rainfall.	No. of days on which rain fell.
	9 a.m.	3 p.m.	Mean.	Highest.	Lowest.	Maximum Means.	Minimum Means.	Maximum Extreme.	Minimum Extreme.	Mean for Month.	Range for Month.	Dew Point 9 a.m.	Dew Point 3 p.m.	9 a.m.	3 p.m.	Mean.	9 a.m.	3 p.m.	Mean.		
January ...	30·088	30·017	30·052	30·155	29·880	79·1	69·1	82	65	74·1	17	67	67	·692	·663	·678	76	70	73	6·59	20
February ...	30·058	29·994	30·026	30·146	29·954	80·3	70·4	82	68	75·3	14	66	65	·651	·627	·639	67	63	65	·53	9
March ...	30·012	29 950	29·981	30·123	29·837	82·0	71·4	86	68	75·7	18	67	69	·659	·692	·676	66	67	66·5	1·06	5
April ...	30·043	29·961	30·002	30 130	29·913	82·8	75·7	86	71	79·2	15	68	69	·677	·680	·679	68	66	67	1·70	8
May ..	30·063	30·001	30·032	30·179	29·917	84·3	77·5	87	74	80·9	13	70	72	·736	·775	756	67	70	68·5	1·33	6
June ...	30·038	29·957	29·997	30·093	29·924	85·4	78·5	88	76	81·9	12	73	74	·790	·828	·809	70	72	71	2 52	8
July ...	30·057	30·016	30·036	30·137	29·951	86·0	76·5	87	73	81·2	14	73	74	·810	·804	·807	71	68	69·5	1·92	16
August ...	30·018	29·970	29·994	30·089	29·902	85·9	75·6	88	71	80·7	17	76	75	·908	·875	·892	79	73	76	4·39	18
September ...	30·000	29·970	29·985	30·064	29·813	86·0	76·4	87	72	81·2	15	75	75	·875	·92	901	76	79	77·5	4·09	12
October ...	29·968	29·904	29 936	30·033	29·852	86·3	76·0	88	74	81·1	14	75	77	·857	·920	·889	73	76	74·5	2 20	13
November ...	29·980	29·904	29·942	30·062	29·819	83 9	74 2	87	70	79·0	17	77	76	·931	·911	·921	84	82	83	12·66	19
December ...	29.997	29·930	29·963	30·083	29·806	83·3	73 8	86	71	78 5	15	73	74	·819	·855	·837	79	75	77	3·71	23
Means ...	30·026	29·964	29·995			83·7	75·6	86·2	71·0	79·1	15	71·6	72·2	·784	·796	·790	73·0	71·7	72·3	43·30	157

RAINFALL RETURN FOR ST. KITTS FOR YEAR 1930.

Estate.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	Total.
Parsons	6·53	1·90	2·75	4·47	3·17	2·67	3·76	8·49	3·20	3·81	18·43	4·40	58·58
Lodge	8·92	0·75	4·46	3·61	3·79	2·52	3·61	5·05	3·72	5 99	11·45	4·70	58 57
Molineux	5·32	1·15	5·23	5·17	3·35	3·91	3·54	4·67	3·60	5·55	11 32	4·16	56·97
Cranstouns ...	3·10	1·05	1·60	1·98	3·10	3·55	2·90	7·50	6·75	8·96	12·00	3·45	55 94
Sir Gillies ...	4·68	1·68	2·20	1·42	2·55	3·31	2·76	5·68	7·15	6·30	11·60	4·80	54·13
Wingfield ...	6·97	1·08	2 91	3·51	1·88	3·34	2·88	5·47	5·05	2·74	13·37	4·83	54·03
La Valee	3·97	1·45	1·40	1·95	2·60	2·55	2·28	7·28	6·75	5·95	12·42	4·28	52·88
Mansion	8·21	0·51	3·80	2·86	3·63	3·25	2·56	3·71	3·23	5 18	9·83	5·30	52·07
Belmont	5·30	1·87	2·18	2·82	4·07	3·60	3·99	3·01	4·67	4·13	12·42	3 79	51·85
Caines	6·41	1·70	1·49	2·32	3·55	3·72	2·69	2·29	4·16	4·53	12·82	4·36	51·04
Willets	2·29	1·52	1·39	3·20	4·47	3 21	2·72	3 04	3·32	2 55	16·14	6·21	50·06
Brighton	6·68	0·60	3·30	3·29	2·43	2·99	2·55	4·10	2·80	4·77	9·52	5·92	48 95
Mills	7·88	0·67	2 40	2·43	2·54	3·12	3·48	3·34	3·22	4·96	8·87	5·30	48 21
Stapleton	7·04	0·65	2·81	1·10	1·29	2·88	2·59	3·27	3·29	3·47	14·51	4·68	47·58
Estridge	6·82	0·57	3·22	2·46	3·68	2·78	2 97	3·13	2 86	5·33	9·19	4·17	47·48
Belle Vue	6·23	1·08	3·42	2·93	2·42	2 53	2·83	3·02	1·81	4 51	11·25	5·07	47·10
Buckleys	7·19	0·18	1·80	1·27	1·80	2·81	2·00	4·05	4·07	1·80	14·25	3 91	45·13
Bourkes	5·96	0·87	0·85	1·67	1·58	2·72	3 01	5·33	6·01	1·43	10·95	3·30	43·68
Cunningham ...	6·62	0·85	2·51	3·45	1·86	3 44	2·60	2·63	1·58	3 39	10·16	4·34	43·43
La Guerite ...	6·59	0·52	1·66	1·70	1·33	2·12	1·92	4·39	4·09	2·20	12·66	3·71	43·30
Needsmust ...	7 75	0 25	2·30	1·52	1·30	2·60	1·20	5 88	2·20	4·90	10·65	2 65	43·20
Brotherson ...	3·67	1·60	1·20	1·02	3·07	2·54	2·80	2·18	5·37	2 69	10·09	3·86	41·09
Douglas	4·58	1·15	2·35	1·82	0·93	2·33	2 47	3·92	2 93	2·58	10·71	4·07	39·84
Hermitage ...	5·85	0 47	2·13	3 09	1·34	2·35	2·21	2·98	2·56	3·85	7·70	4·07	39·60
St. Kitts Factory ...	6·54	0·44	2·10	2·03	0·89	3·04	2 01	4·36	2 98	2·94	8·50	3·24	39·07
Lower Bourryeau ...	6·23	0·49	3·12	1·94	1·27	1·63	2·37	3·60	2·35	4·49	7·63	3·84	38 96
West Farm ...	6·96	0.25	1·45	0·84	1·12	2.74	1·83	2·88	3·58	0 97	11·57	2·82	37·01
Pond	6·17	1·73	1·05	1·33	1·05	2·61	0·57	5·52	2·16	2·02	9·71	1·88	35·80
Frigate Bay .	5·85	0·18	1·09	1·07	0·51	2·51	1·60	3·38	3·52	4·27	7·70	2·10	33·78
Canada	4·13	0·18	1·96	1·19	1·35	1·81	2·01	1·77	1·12	3·79	9·43	3·65	32·39
Conaree	3·92	0·03	1·11	0·68	0·5	1·63	1·04	1·29	1·03	3·98	6·30	2·27	23·80

AVERAGE RAINFALL, 1914–1930.

In 1914	the average rainfall on	31	Stations was	52.92	inches
1915	„	32	„	75.59	„
1916	„	35	„	69.51	„
1917	„	33	„	43.53	„
1918	„	30	„	52.44	„
1919	„	29	„	62.84	„
1920	„	28	„	37.13	„
1921	„	29	„	47.09	„
1922	„	33	„	44.84	„
1923	„	30	„	34.58	„
1924	„	28	„	68.13	„
1925	„	32	„	43.54	„
1926	„	27	„	62.57	„
1927	„	29	„	64.36	„
1928	„	29	„	53.25	„
1929	„	28	„	52.55	„
1930	„	31	„	45.98	„

The average rainfall for 17 years is 53.58 inches, so that the rainfall for the year 1930 is 7.60 inches below the average.

AVERAGE MONTHLY RAINFALL.

	1930 Inches	1914–1930 Inches
January	6.08	3.15
February	0.89	2.50
March	2.30	2.72
April	2.27	3.98
May	2.25	3.71
June	2.82	3.98
July	2.55	4.97
August	3.98	5.40
September	3.58	5.88
October	4.01	6.63
November	11.13	6.30
December	4.05	4.51

DETAILS OF ADMINISTRATION.

EXPENDITURE AND REVENUE

EXPENDITURE.

Personal Emoluments	£786	8	9
Travelling Allowances	114	19	0
Experiment Stations	217	8	7
Sugar cane, cotton and other experiments	228	3	10
Apparatus, chemicals and books	61	6	5
Contingencies	22	19	4
Destruction wild cotton and cotton pests ..	32	1	4
Government Cotton Seed Farm	825	10	6
Upkeep of Zebu Bulls	74	3	3
Trial shipment of preserves	27	12	9
Total	£2,390	13	9

REVENUE.

Experiment Station	£ 53	3	3
Government Cotton Seed Farm	284	10	10
Total	£337	14	1

STAFF CHANGES.

During the year a grant was obtained from the Colonial Development Committee to pay the salary of an Agricultural Inspector at Anguilla. Mr. E. O. R. Lake, a sugar planter at Antigua, was appointed to the post and took up his duties early in January.

Mr. D. C. Todd, Junior Clerk, was transferred to the Public Health Department and Mr. R. Lance appointed as Assistant Clerk in his place.

OFFICIAL VISITS.

Visits were paid to the station during the year by His Honour the Administrator, Professor H. A. Ballou, Commissioner of Agriculture, and Mr. G. A. Jones, Assistant Commissioner of Agriculture.

REPORT OF THE AGRICULTURAL INSTRUCTOR, NEVIS

For the year ended 31st March, 1931.

WORK IN THE NURSERY AND DISTRIBUTION OF PLANTS.

In the nursery work in connection with the raising of fruit trees, and ornamental plants was continued, and the distribution of plants during the year was as follows:—

Gliricidia	515
Papaw	94
Guava	55
Grafted Limes	47
Granadilla	10
Avocado Pear	10
Pomegranate	9
Mango	7
Grafted Orange	5
Belle Apple	5
Bread Fruit	2
Cashew	2
Sapodilla	1
Soursop	1
Casuarina	10
Aleurites	3
Adansonia	3
Hydnocarpus	1
Ornamental plants	27
	806

Plot Experiments.

Experiments with economic and food crops were attempted at the Station, but the weather turned out to be so unfavourable that no results were obtained as most of the crops made hardly any growth on account of the prolonged drought.

The following is a list of the planting material distributed through the Experiment Station:—

Peas and Beans	.. .. ..	427 lb. imported)
Cane Plants	.. .. ..	16,450 „
Aloes ..	.. .. ..	50 plants
Guinea Corn	.. .. ..	3 lb.
Cotton Seed	.. .. ..	52,531 lb. (from La Guerite)
Pine Apple	.. .. ..	25 slips
Manila Hemp	.. .. ..	20 „
Corn (Maize)	.. .. ..	400 lb. (imported)
Sweet Potato	.. .. ..	20,500 „

Vegetable Nursery.

In order to encourage the growing of vegetables for the Canadian market, a small nursery was established at the Station for the purpose of supplying seedlings free to growers.

The following is a list of the seedlings distributed from the nursery:—

Tomato (Bonny Best)	119,560
Egg-Plant (Black Beauty)	14,442
Onions	135,400
Sweet Pepper (Chinese Giant)	210

DEMONSTRATION PLOT.

A five-acre plot was rented from Bath Plain estate and laid out in one-acre plots as a model peasant's holding and planted according to the following plan of crop rotation:—

Plot.	1st. Year.	2nd Year.	3rd Year.	4th Year.	5th Year.
A. ..	Cotton	Pasture	Ground Provisions	Late Vegetables	Early Vegetables
B. ..	Early Vegetables	Cotton	Pasture	Ground Provisions	Late Vegetables
C. ..	Ground Provisions	Late Vegetables	Early Vegetables	Cotton	Pasture
D. ..	Late Vegetables	Early Vegetables	Cotton	Pasture	Ground Provisions
E. ..	Pasture	Ground Provisions	Late Vegetables	Early Vegetables	Cotton

The weather during the year 1930-31 was very unfavourable and the results obtained on the holding were most discouraging.

Plot A. Cotton.

The cotton was planted on Oct. 22nd 1930. The seed germinated well, and there was a good stand of young cotton. A drought followed and the plants had no chance to develop. The crop was also severely attacked by the cotton worm (Alabama); consequently the returns were very poor.

The total cost of the crop including insecticides was £9 16. 11. and the yield of seed cotton 210 lb.

Plot B. Early Vegetables.

This plot was divided in two and half planted in Tomatoes and half in Egg-plants. The crop was planted during the week which ended Oct. 29th, 1931, and the plants made a good start, but the drought followed and only a very poor yield of more or less inferior fruits was obtained.

The cut worm (Prodenia) and the green bug were also very troublesome in the plot.

The total cost of growing and reaping the crops was £9 19. 7. and the yield of marketable Tomatoes and Egg-Plants was 1,527 lb. and 2,746 lb. respectively.

Plot C. Ground Provisions.

This plot was divided in four, and one-fourth planted in yams, one-fourth in Cassava, one-fourth in sweet potatoes, and one-fourth in corn and peas. These crops practically all failed on account of the drought.

The yams and cassava in particular were a complete failure.

The cost of the plot was £7. 17. 2., and the total receipts from the sales of produce was £3 19. 2.

Plot D. Late Vegetables.

This plot was planted in Tomatoes in December 1930, and after the plants were set out, there was hardly sufficient rain to give them a start, and as the weather continued dry, the plot was abandoned. The plot cost £2 4| 3.

Plot E. Pasture.

One of the employees working at the station was allowed to pasture his cow on this plot and make up manure at "cattle stake", but on account of the drought he had to move off the animal, as the plot could not afford sufficient pasture to keep the cow.

COTTON SELECTION.

Work on cotton selection was continued on the same lines as in previous years.

The following table shows the results of the examination of the seed cotton from the plants picked out to carry on the selection:—

Plant No.	Weight Seed Cotton ozs.	Mean Max, length of lint m.m.
2051	1.5	51.4
2052	1.25	46.4
2053	.50	49.0
3421	1.50	47.7
3422	3.25	50.0
3423	2.50	49.0

WORK IN CONNECTION WITH INSECT AND FUNGUS PESTS AND DISEASES AND THEIR CONTROL.

Sugar Cane.

Mosaic Disease. No trace of this disease was observed during the year.

Gumming Disease. Gumming disease was observed here and there on a few of the most susceptible varieties. Plants of resistant varieties are being distributed by the Agricultural Department to growers about the island.

Moth Borer. A fairly large proportion of the crop is damaged each year by this pest, and it is very seldom that a load of canes is seen of which a great percentage is not damaged by this pest.

Cotton.

The cotton leaf worm (Alabama argillacea) was most destructive during the season. During the month of November when the crop was only about three weeks above ground fully 75% of the crop was completely destroyed by this pest. The crop was replanted but the attack of worms continued so severe that the fields were abandoned, and those saved, were saved at a great expense for insecticides.

Both the Pink boll worm and Leaf Blister mite were more prevalent this season than they had been for some time past.

The cleaning up of the cotton fields and the fumigation of seed at the ginneries have been carried out in accordance with the Regulations.

Provision Crops.

The Cut worm (Prodenia) and Protoparce were very destructive to ground provisions and vegetables during the season, and especially so during the months of November and December.

Insecticides.

A supply of Paris Green and Lime was again this season put in stock at the Experiment Station for the benefit of the smaller growers.

Paris Green and Lime was supplied to 334 growers and the total quantity supplied was 3,352 lb of Paris Green and 199 bags of lime.

DISINFECTION AND FUMIGATION OF PLANTS AND SEEDS.

In accordance with the provsions of the Plant Protection Ordinance nineteen consignments of plants and seeds were received at the Experiment Station for fumigation.

PROGRESS IN CHIEF INDUSTRIES.

The 1929-30 cotton crop was all reaped by the end of June 1930, and the total production was 274,006 lb of lint from 2,500 acres being at the rate of 109 lb. per acre.

The acreage planted in cotton during the season 1930—31 was about 2,000 acres.

The crop was planted during the month of October 1930, except in the southern part of the island where planting was delayed until about the middle of November on account of dry conditions. The seed germinated fairly well, but the crop was severely attacked by the cotton worm when the plants were still very young and fully 75% of the crop was destroyed. The fields were replanted, but the crop was subjected to most unfavourable conditions—the weather continued dry and the attack of worms severe, so much so that some of the fields were abandoned.

Picking began in the month of March 1931, and the crop is estimated at only 40 lb. of lint per acre.

Sugar Cane.

There is a slight revival of the cane industry in the Windward part of the island, where a small muscovado mill is being erected. The cane crop throughout the island is very poor on account of unfavourable weather conditions.

Coconuts.

The coconut plantations of the island are recovering from the effects of the 1928 hurricane, and the younger plantations are making fairly good progress.

PROGRESS IN MINOR INDUSTRIES.

The live stock industry of the island suffered a severe set-back during the year. A large number of animals died during the drought from lack of sufficient food, and prices for both butcher and working animals have fallen very low.

One of the Zebu bulls (No. 165) was transferred from the Experiment Station to Jones Estate on the windward part of the island in November 1930, where he is now on service. Both animals are in good health and condition.

The number of cows served during the year under report was, at Jones 4, at the Experiment Station 86.

Vegetables and Ground Provisions.

The usual ground provisions were planted by the peasants, but on account of the unfavourable weather during the year, hardly any crop was reaped.

A large number of the peasants grew small plots of Tomatoes for the Canadian market, and in spite of the drought, the results have been very encouraging.

The total quantity of vegetables shipped from Nevis during the year was as follows:—

Tomatoes	1293	Crates	weighing	25,860	lb. net
Egg-Plants.....	122	„	„	3,103	„ „
String Beans.....	9	„	„	117	„ „

The Officer of the Agricultural Department was responsible for the grading, packing &c of the vegetables for the Canadian market.

EXTENSION OF INTEREST IN AGRICULTURAL MATTERS.

A Government Vegetable Bureau has been established, and a cold storage plant is being erected on the island in connection with the development of a trade with Canada in Fruits and Vegetables.

Exhibition.

No Agricultural Show was held during the year on account of the drought.

Agricultural Education.

Very little was done on the school gardens during the year on account of the drought.

Correspondence and Distribution of Information on Agricultural Matters.

The usual correspondence in connection with the work of the Department has been carried on.

Regular visits are paid by the Agricultural Instructor to the estates and peasants' plots in the different parts of the island, and advice as to crops and to methods of dealing with pests offered.

The Agricultural and Commercial Society of which the Agricultural Instructor is Honorary Secretary held five meetings during the year, and the following were the chief matters discussed:—

Loans to Planters, Conditions in Nevis due to prolonged drought. Close Season for Cotton and Trade with Canada.

Official Visits.

His Excellency the Governor, Sir T. R. St. Johnston, K.C.M.G., His Honour the Administrator, C. A. Jones Esq., Assistant Commissioner, and Mr. R. E. Kelsick, Agricultural Superintendent, visited the Station during the year.

Representatives of the Canadian British West Indies Co. Ltd. and Major Wheeler, Fruit Transportation Specialist, also visited the station during the year.

Publications Received.

The following publications have been regularly received and are hereby gratefully acknowledged:—

The Journal of the Imperial College of Tropical Agriculture, Journal of Agricultural Research, and the Experiment Station Record, United States Department of Agriculture; Journal of the Empire Cotton Growing Corporation; Journal of the Agricultural Society, Jamaica; Report of the Local Department

of Agriculture, Barbados; Report of the Experiment Station, Porto Rico; Climatological Report San Juan, Porto Rico.

Repairs to Buildings.

No repairs were done at the Station during the year.

Staff Change.

There was no change of staff during the year.

METEOROLOGICAL RETURNS.

The total rainfall for the year 1930-31 was 29.36 inches, which is 17.42 inches less than that of last year.

Rain fell on 142 days during the year, and the heaviest fall recorded for any one day was 2.55 inches which occurred on November 17th, 1930.

The following tables show the monthly rainfall at the Experiment Station for the year under report and also that for the past twenty-five years 1906-1930.

Month.	Rainfall. Inches.	No. of days on which rain fell.	Maximum fall for any one day.
1930.			
April	1.73	7	.34 (3rd.)
May	1.66	6	1.37 (21st.)
June	2.83	11	.81 (10th.)
July	2.53	19	.33 (7th.)
August	2.06	14	.57 (25th.)
September	3.28	17	.76 (1st.)
October	2.21	14	.36 (31st.)
November	7.51	19	2.55 (17th.)
December	2.71	14	.74 (1st.)
1931.			
January	1.00	7	.65 (2nd.)
February	1.47	10	.27 (14th.)
March	.37	4	.17 (14th.)
	29.36	142	

RAINFALL AT THE EXPERIMENT STATION, NEVIS, FOR THE PAST TWENTY-FIVE YEARS 1906–1930.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
1906	3·28	2·22	1·71	2·19	3·49	7·30	4·11	2·94	18·93	3·10	3·42	6·67	60·11
1907	3·22	2·32	1·23	1·08	3·30	4·12	4·86	2·64	3·76	6·92	2·54	7·46	43·45
1908	2·58	1·70	7·16	2·18	4·24	2·83	3·34	5·02	6·98	1·44	6·93	6·10	50·50
1909	3·86	3·46	·96	2·72	1·62	9·52	4·52	8·71	3·46	7·38	2·44	2·74	50·69
1910	5·24	3·8	21·33	·44	1·08	4·24	2·80	7·10	7·00	1·86	3·32	4·68	41 91
1911	6·38	2·78	2·32	4·02	4·08	·92	2·72	2·24	5·30	3·58	2·80	8·84	46·08
1912	3·84	·68	2·66	4·20	·79	2·51	3·56	3·46	3·19	5·25	6·43	2·85	39·42
1913	7·18	1·96	4·14	·81	4·47	2·23	1·77	4·92	3·59	3·89	4·41	3·36	42·64
1914	3·40	2·74	3·10	2·52	6·29	2·65	5·16	4·72	2·20	4·17	12·44	4 16	53·55
1915	4·40	2·03	·28	5·65	2·79	2·52	8·14	4·34	4·71	5·88	5·37	5·89	52·10
1916	4·53	3·99	2·19	·75	3·82	2·07	14·54	7·81	2·00	10·86	6·74	1·74	64·04
1917	1·39	3·28	2·57	1 00	4·27	6·73	3·46	4·02	8·18	5·00	2·11	2·09	44·10
1918	2·18	3·27	2·75	2·59	6·14	2·02	4·08	5·12	6·21	6·36	10·98	2·28	53·98
1919	2·22	1·16	1·33	2·79	2·10	2·29	4·02	1·66	2·10	8·41	7·22	2·89	38·22
1920	3·71	2·86	1·25	·02	1·22	2·22	1·79	4·61	6·05	6·76	3·30	4·39	38·18
1921	5·84	2·79	3·86	1·40	·82	·80	4·94	6·58	4·20	7·34	3·66	3·95	46·18
1922	1·75	1 80	4·71	3·33	1·95	3·09	4·05	3·88	6·84	4 27	2·14	5·81	43·62
1923	1·51	2·41	5·42	2·04	·45	5·62	1·85	2·63	1·16	5·28	4 23	3·16	32·74
1924	2·46	3·29	·05	2·49	1·58	2·48	4·50	24·35	4·05	5·11	3·57	4·71	58·64
1925	2·65	·99	1·49	1·06	1·64	1·92	3·53	4·81	4·12	6·94	2 74	·31	32·20
1926	2·08	1·97	1·78	3·42	11·77	2·92	3·89	4·94	6·24	7·15	3·62	6·59	56·37
1927	4·44	1·46	4·01	2·79	9·32	2·60	6·52	3·48	4·48	10·05	5·69	1·22	56·06
1928	2·87	2·10	3·21	3·78	1·31	3·96	4·06	2·59	*1·98	5·84	4·07	4·37	40·17
1929	3·92	2·52	5·38	2·12	3·10	2·58	6·95	5·21	2·69	3·45	5·07	5·57	48·56
1930	9·05	·63	·34	1·73	1·66	2·83	2·53	2·06	3·28	2·21	7·51	2·71	36·56

The average rainfall for the last twenty-five years was 46.80 inches.
*Rainfall during hurricane of September 21, 1928, not available.

REPORT OF THE AGRICULTURAL INSTRUCTOR, ANGUILLA, FOR THE PERIOD 13TH JANUARY TO 31ST MARCH, 1931.

I arrived in Anguilla on the 13th January, 1931, after spending a week in St. Kitts. During my stay in St. Kitts I visited the Experiment Station several times and discussed with the Agricultural Superintendent the work to be carried on at Anguilla.

Anguilla is a small low-lying island 35 square miles in area and lies about 70 miles N.N.W. of St. Kitts. The population consists mostly of peasant proprietors.

The island is subject to periods of prolonged drought. The average rainfall of the island, taken at one station during the past 25 years, is 35.42 inches. The average precipitation for each month for the same period is given below.

January	2.44 inches.
February ..	2.08 „
March	1.77 „
April	1.83 „
May	1.99 „
June	2.28 „
July	2.69 „
August	3.39 „
September ..	3.70 „
October	4.52 „
November	5.56 „
December	3.17 „
Total	35.42 inches.

AGRICULTURE.

General.

The soil of Anguilla is shallow and rocky and much of it is unsuitable for cultivation of any kind. The peasants use the most favourable spots to the best advantage. Sea Island cotton is the main money crop of the island. Sweet potatoes, pigeon peas, Indian corn and beans are also grown. Recently some interest has been shown in onions.

THE COTTON INDUSTRY.

Planting for the 1930-31 cotton crop was started on the 22nd September, 1930. Great difficulty was experienced in establishing the plants. The weather was dry and the plants were severely attacked by cut worms.

The rainfall during the cotton growing season is given below:—

September	1.67 inches.
October	1.07 „
November	6.85 „
December	2.34 „
January, 1931 ..	0.61 „
February	2.11 „
Total	14.65 inches.

The crop is estimated at 27,000 lbs. lint and will be very much smaller than that of the previous year. This is mainly due to insufficient rainfall. There were attacks of the cotton leaf worm and the pink boll worm. The latter was fairly prevalent and was found in every district of the island. The leaf worm was satisfactorily controlled by dusting with Paris green and lime.

Other Crops.

Sweet potatoes, peas, cassava, yams and Indian corn were planted by the peasants but owing to the severe drought the results were very disappointing to the growers.

DEMONSTRATION PLOT.

A demonstration plot has been established on an acre of land in the Valley district near to the Well.

The plot has been fenced in and divided up into 1/10th acre plots. New varieties of sweet potatoes, yams and other crops will be introduced from time to time and propagated on this plot for distribution.

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